



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,339	01/26/2001	Yoshihisa Takubo	Q62555	5113

7590 06/18/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
Suite 800
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 06/18/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/769,339

Applicant(s)

TAKUBO, YOSHIHISA

Examiner

Steven D. Maki

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1733

- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-12 and 14-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-12 and 14-23, the scope and meaning of "the end [which has no antecedent basis] *on the central plane side*, of each lug groove is aligned on the central plane" (emphasis added) is ambiguous and confusing. First: The above noted language appears to be inconsistent with itself. The above noted language appears to require "the end" to be at two different locations - a first location on the central plane side and a second different location of on the central plane. Is "the end" required to be located at the first location on the central plane side and /or at the second different location of on the central plane? Second: It is unclear what structure / characteristics of "the end" are required to be aligned. For example: Does "the end ... is aligned" limit each of claims 1, 12 and 17 to require (1) each lug groove to have an axially inner linear groove edge oriented at zero degrees with respect to the circumferential direction and (2) the axially inner linear groove edges to be colinear. If not, why not?

- 3) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 4) Claims 1-12 and 14-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

Art Unit: 1733

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 12 and 17, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of "the end on the central plane side, of each lug groove is aligned on the central plane" (emphasis added).

Page 11 of the original disclosure describes "... on the tire central plane CL, a continuous auxiliary groove 16 (recess portion) is continuously provided in the tire circumferential direction so that the tire central plane CL-side end of the lug groove 14 is each connected thereto". This description on page 11 of the original disclosure fails to support the above noted subject matter in amended claims 1, 12 and 17. Examples: Page 11 describes the *continuous auxiliary groove 16* (recess portion) to be continuously provided *on* the tire central plane instead of the ends of the lug grooves as required by amended claims 1, 12 and 17. The requirement in amended claims 1, 12 and 17 of "the end ... of each lug groove is aligned on the central plane" is also inconsistent with figures 1B, 2B and 3B which fail to show the end of each lug groove to be on the central plane. The continuous circumferential groove 16 instead of the ends of the lugs is on the central plane.

In claims 21-23, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

Art Unit: 1733

inventor(s), at the time the application was filed, had possession of the claimed invention is the subject matter of "the end ... of each lug groove has a deeper depth than the recess portion" in new claims 21-23. If support for the subject matter of the end of each lug groove is aligned is interpreted as being the axially inner linear groove edges of the lug grooves being colinear as shown for example in either figure 1A or 2A, then claims 21-23 must contain new matter since the depth of the axially inner linear groove edges and the depth of the recess portion 16 is the same (one is not deeper than the other); it being emphasized that axially inner linear groove edge (the end of the lug groove 14) is also a bottom edge of the recess portion.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) **Claims 1-4, 6-7, 9, 12-15, 17-19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 204 (JP 5-155204) in view of at least one of Great Britain '587 (GB 691587), Nellen (US 170710) and Cadwell (US des. 99597).**

Japan '204 discloses a pneumatic tire having a tread comprising wide lug grooves 4, a narrow circumferential recess 6 on the central plane of the tire and sequentially formed narrow recesses 7. The sequential narrow recesses are located just outside a position spaced by $W/3$ from the center plane of the tire. The negative ratio of the tread is 50-80%. See abstract and figures. The lug groove 4 has a depth of 15 mm. Each of the narrow circumferential recess 6 and the narrow recesses 7 have a

Art Unit: 1733

width of 3-15% of the tread width and a depth of 7.5 mm. The depth of each recess is 50% of the lug groove depth (7.5 mm / 15 mm = 50%). Japan '204 teaches that the narrow recesses are more shallow than the lug grooves. See machine translation. The negative ratio of the narrow circumferential recess and the sequential narrow recesses other than the wide lug grooves therefore must define a negative ratio of 6-30%, which corresponds to the claimed range of 10-25%; it being noted that the midpoint of the range 6-30% is 18% which falls within the claimed range of 10-25%. In any event, it would have been obvious to one of ordinary skill in the art to use a negative ratio of the center region other than the lug groove of 10-25% for the tread of Japan '204 since (a) the negative ratio of Japan '204's tread other than the lug groove is defined by the narrow recesses, (b) the circumferential narrow recess contributes only 3-15% to the negative ratio and the sequential narrow and (c) the sequential narrow recesses contribute only 3-15% to the negative ratio. Hence, Japan '204 teaches a negative ratio other than the lug groove of 3-30% and this range of 6-30% is suggestive of the claimed range of 10-25%.

As to claims 1, 12 and 17, it would have been obvious to modify the tread of Japan '204 such that "the end on the central plane side, of each lug groove is aligned on the central plane" since (a) Great Britain '587, which teaches a narrow center circumferential recess on the center plane and sequential narrow grooves (slits) in a tread having lug grooves for a pneumatic tire which is to have reduce heat generation, suggests configuring the center circumferential groove on the center plane as a straight circumferential groove on the center plane (Great Britain '587 therefore suggesting that

Art Unit: 1733

a straight circumferential groove on the center plane, which in Japan '204 results in *aligned* edges, is an alternative to a zigzag groove on the center plane, (b) Nellen, which like Japan '204 shows lug grooves connected to a center groove, suggests configuring the center groove as a straight groove and locating that straight circumferential groove on the center plane so that the "ends" of the lug grooves are straight and *aligned*, and/or (c) Caldwell, which like Japan '204 shows lug grooves connected to a center groove suggests configuring the center groove such that the "end" of each lug groove is defined by an opposing lug and is straight circumferential edge on the center plane - all of the "ends" of the lug grooves thereby being *aligned*.

As to claim 12 (depth), the claimed recess depth being 10-45% of lug groove depth would have been obvious in view of Japan '204's teaching to use a recess depth which is more shallow than the lug groove depth; a recess depth which is 50% of the lug groove depth being provided as an example. As to claim 17, the "recess portion continuously" reads on the circumferential groove 6 and the "another recess portion" reads on the narrow grooves 7. As to the remaining claims: The "auxiliary groove segment" reads on the narrow groove 7. The claimed lug groove bottom configuration is suggested by the lug groove bottom illustrated in figure 3. As to new claims 21-23, the limitation of the recess portion being less deep would have been obvious in view of Japan '204's teaching to make grooves 6, 7 shallower than the lug grooves.

7) **Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 204 (JP 5-155204) in view of at least one of Great Britain '587 (GB**

Art Unit: 1733

691587), Nellen (US 170710) and Cadwell (US d s. 99597) as applied above and further in view of Japan '913 (JP 5-96913).

As to claims 10 and 11, it would have been obvious to provide the tread of Japan '204 with the claimed closed type groove portion since Japan '913 suggests forming recesses (holes) in land portions of a tread for a heavy duty pneumatic tire to reduce heat generation.

Allowable Subject Matter

8) Claims 5, 8, 16 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record (including the admitted prior art) fails to motive one of ordinary skill in the art to further modify Japan '204, which teaches a light truck tire having a lug groove depth of 15 mm instead of a heavily loaded construction vehicle tire, such that "a maximum depth of said lug groove in said center region of said tread is 60 mm or more" (emphasis added).

Remarks

9) Applicant's arguments with respect to claims 1-12 and 14-23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has perfected his 119 foreign priority claim. Accordingly, the rejection using Kobayashi has been withdrawn.

The rejection using the admitted prior art has been withdrawn in view of the amendment to claims 1, 12 and 17.

Art Unit: 1733

Applicant's arguments filed 3-24-03 have been fully considered but they are not persuasive.

Applicant's that Japan '204 does not teach each lug groove eroding the circumferential recess is irrelevant since none of the claims require the lug grooves to "erode" a circumferential recess.

10) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

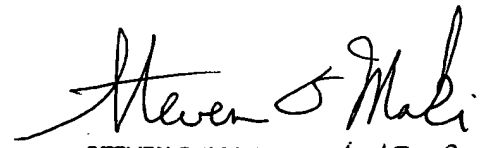
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers

Art Unit: 1733

for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
June 15, 2003


STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
Av 1733 6-15-03